



**PHASE 1
HERITAGE IMPACT ASSESSMENT FOR
THE PROPOSED SPRINGS ECONOMIC
ZONE DEVELOPMENT PLANNED
FOR PORTION 133 OF THE FARM
GEDULD LOCATED IN REGION D OF THE
CITY OF
EKURHULENI.**

DEVELOPED FOR



Afzelia

Environmental + Health & Safety + Project Management Consultants

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DOCUMENT INFORMATION

DOCUMENT INFORMATION ITEM	DESCRIPTION
Proposed development and location	The proposed development is planned for Portion 133 of the farm Geduld located in Region D of the City of Ekurhuleni. The property size is 29.1882 hectares (ha).
Purpose of the study	To carry out a Phase 1 Heritage Impact Assessment to determine the presence/absence of archaeological sites and assess their archaeological significance in terms of the NHRA of 1999 and SHARA guidelines.
Topography	The site has a flat terrain with minor alterations
Municipalities	City of Ekurhuleni Metro Municipality
Predominant land use of surrounding area	Industrial sites
Applicant	Impala Platinum Limited
ERF No.	Erf 4 – 1.0464ha Erf 5 – 0.9417 ha Erf 6 – 1.2249ha Erf 1 – 1.0745ha Erf 2 – 0.7780ha Erf 3 – 0.7794ha Erf 7 - 1.0260ha Erf 8 – 1.0893ha Erf 9 – 0.8613ha Erf 10 – 1.2105ha Erf 11 – 1.1525ha Erf 12 – 1.2266ha
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EXECUTIVE SUMMARY

The Applicant Impala Platinum Limited proposes to construct a mixed-industrial park which forms part of the Gauteng Growth and Development Agency's strategy to establish a Platinum Group Metals (PGM) Special Economic Zone (SEZ) in Springs. The mixed-industrial park is proposed to include a fuel cells plant and other manufacturing related activities such as power systems, transport, mining equipment and assembly.

A review of a range of cultural heritage information was undertaken as part of the heritage assessment process. This review included archival information, historical housing and planning documents; thesis's and research documents on apartheid and architecture as well as unpublished manuscripts speaking to migrant labour in South Africa and specifically Gauteng and specifically the City of Ekurhuleni and Springs. The National heritage databases, lists and registers, other documented information (including heritage impact assessment reports and a range of ethno-historic and archaeological sources at both local and regional levels) were also consulted for information regarding other heritage resources within the vicinity of the Springs area.

From this it is clear that the broader Springs area contains a rich and varied cultural landscape that is of particular significance to the local communities. The cultural signature of this landscape has expression in two separate but intrinsically linked spheres: that relating to traditional and spiritual association; and that resulting from the everyday use and occupation of that landscape. The proposed project development area however has very little to insignificant cultural heritage significance. Apart from the old buildings that have got aspects of Victorian and Edwardian¹ architecture no other heritage resources were noted in the proposed development footprint.

The scope of work for this Heritage Impact Assessment was to assess the footprint of the proposed development footprint as well as assess the hostels for cultural heritage significance and architectural significance. The proposed development area exceeds 5000m² therefore it triggers section 38(1) (a) of the the National Heritage Resources Act (NHRA- Act No. 25 of 1999) (1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised as—any development or other activity which will change the character of a site—(i) exceeding 5 000 m2 in extent. The objective of the report is to fulfil the requirements of SAHRA in the in terms of Section 38(1) of the NHRA.

¹ A classical revival of such designs in South Africa is the Durban main post office, the building which originally accommodated the town hall, post office and municipal offices, defines the northern side of Francis Farewell Square. A cupola sits atop the clock and bell tower, the historically distinguishing features of a town hall, while the British coat of arms is inscribed on the attic balustrade of the colonnade facing Dorothy Nyembe Street, the original entrance to the post office (see Radford, 2002).

Conclusions

It is the reasoned opinion of the author of this report that the provincial heritage authority should exercise its discretion and offer the proposed development a conditional positive review. This is based on the fact that no other heritage resources were noted in the proposed development footprint apart for the old buildings noted above which will not be affected in any way by the proposed development. Proposed below are the recommendations that the developer would have to stick to when developing.

Recommendations

1. No Stone Age material occurs in the study area and no ceramics or stone walls attributed to the Iron Age were recorded within the study area. No further mitigation is recommended in terms of the archaeological component for Section 35 for the proposed development to proceed.
2. In terms of the built environment of the area (Section 34), standing structures older than 60 years occur within the study area. These buildings will however not be affected by the development however should the client wish to demolish these buildings, a Phase 2 Heritage Impact Assessment for Built environment should be carried out and a demolition permit should be sort from the Provincial Heritage Authority.
3. In terms of Section 36 of the National Heritage Resources Act no burial sites were recorded. However if any graves are located in future they should ideally be preserved in-situ or alternatively relocated according to existing legislation. Due to the subsurface nature of archaeological remains and the fact that graves can occur anywhere on the landscape, it is recommended that a chance find procedure is implemented for the project as part of the EMPr as detailed below (see Appendix E).

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ABBREVIATIONS

Acronyms	Description
AIA	Archaeological Impact Assessment
ASAPA	Association of South African Professional Archaeologists
CRM	Cultural Resource Management
DEA	Department of Environmental Affairs
EAP	Environmental Assessment Practitioner
EIA	Environmental Impact Assessment
ESA	Early Stone Age
GIS	Geographic Information System
GPS	Global Positioning System
HIA	Heritage Impact Assessment
LSA	Late Stone Age
LIA	Late Iron Age
MIA	Middle Iron Age
MSA	Middle Stone Age
SAHRA	South African Heritage Resources Agency

GLOSSARY

Achievement	<ul style="list-style-type: none"> ▪ Something accomplished, esp. by valour, boldness, or superior ability
Aesthetic	<ul style="list-style-type: none"> ▪ Relating to the sense of the beautiful or the science of aesthetics.
Community	<ul style="list-style-type: none"> ▪ All the people of a specific locality or country
Culture	<ul style="list-style-type: none"> ▪ The sum total of ways of living built up by a group of human beings, which is transmitted from one generation to another.
Cultural	<ul style="list-style-type: none"> ▪ Of or relating to culture or cultivation.
Diversity	<ul style="list-style-type: none"> ▪ The state or fact of being diverse; difference; unlikeness.
Geological (geology)	<ul style="list-style-type: none"> ▪ The science which treats of the earth, the rocks of which it is composed, and the changes which it has undergone or is undergoing.
High	<ul style="list-style-type: none"> ▪ Intensified; exceeding the common degree or measure; strong; intense, energetic
Importance	<ul style="list-style-type: none"> ▪ The quality or fact of being important.
influence	<ul style="list-style-type: none"> ▪ Power of producing effects by invisible or insensible means.
Potential	<ul style="list-style-type: none"> ▪ Possible as opposed to actual.
Integrity	<ul style="list-style-type: none"> ▪ The state of being whole, entire, or undiminished.
Religious	<ul style="list-style-type: none"> ▪ Of, relating to, or concerned with religion.
Significant	<ul style="list-style-type: none"> ▪ important; of consequence
Social	<ul style="list-style-type: none"> ▪ Living, or disposed to live, in companionship with others or in a community, rather than in isolation.
Spiritual	<ul style="list-style-type: none"> ▪ Of, relating to, or consisting of spirit or incorporeal being.
Valued	<ul style="list-style-type: none"> ▪ Highly regarded or esteemed

1.0 INTRODUCTION

1.1 Project Background

Tsimba Archaeological Footprints (Pty) Ltd was requested Afzelia Environmental Consultants (Pty) Ltd to conduct a Heritage Impact Assessment (HIA) for the proposed to construction of a mixed-industrial park which forms part of the Gauteng Growth and Development Agency's strategy to establish a Platinum Group Metals (PGM) Special Economic Zone (SEZ) in Springs. The mixed-industrial park is proposed to include a fuel cells plant and other manufacturing related activities such as power systems, transport, mining equipment and assembly. The proposed development is planned for Portion 133 of the farm Geduld located in Region D of the City of Ekurhuleni. The property size is 29.1882 hectares (ha). The land is registered vide the Transfer Title Deed 67314/1993 in favour of Impala Platinum Limited. However, it has since been handed over to the Gauteng Industrial Development Zone (this does not reflect in the Deeds registry). Twelve Industrial Sites (Erf's) will make up the complete development, which will be completed over 4 phases. Not all sites on the property have been allocated an exact activity in this early stage of the development planning, however proposed planning shows each phase as follows:

Phase 1: Fuel Cells, Chemical Processing and Auto Catalysts

Erf 1 – 1.0745ha | Erf 2 – 0.7780ha | Erf 3 – 0.7794ha

Phase 2: Fuel Cells, Auto Catalysts, Dental and Medical Devices and Mining Inputs

Erf 4 – 1.0464ha | Erf 5 – 0.9417 ha | Erf 6 – 1.2249ha

Phase 3: Mining Inputs, Petroleum Refining and Dental and Medical Devices and Automotive

Erf 7 - 1.0260ha | Erf 8 – 1.0893ha | Erf 9 – 0.8613ha | Erf 10 – 1.2105ha

Phase 4: Auto Catalysts and Jewellery

Erf 11 – 1.1525ha | Erf 12 – 1.2266ha

A heritage impact assessment is required where potential impacts to archaeological resources are identified in the overview study. The impact assessment is designed to gain the fullest possible understanding of heritage resources which would be affected by the project.

The Terms of Reference for this HIA study are:

- Review existing theories and models of cultural heritage resources interpretation and how to develop effective methods of archaeological interpretation for future generations to assist and assist SAHRA in their deliberations;
- Clarify the extent and ways in which current site context archaeological findings may affect the interpretation of cultural sites for present and future generations;
- Shed light on the potential challenges and opportunities brought about by the existence of archaeological sites and other conflicting views of the values of a site;
- Set out the ethical considerations on the interpretation and preservation of archaeological findings given the varied range of approaches available;
- Explain that the issue of archaeological preservation and conservation is relevant not only National Heritage or Provincial Heritage properties, but also for any significant cultural site;
- Focus on best practice of interpretation and preservation of archaeological findings.

The aim: - There are two interlinked aims for this HIA. The first is to identify and document cultural heritage sites, cultural resources, sites associated with oral histories (intangible heritage), graves, cultural landscapes, and any structures of historical significance (tangible heritage) that may be affected within the development footprint. The second aim of this HIA is to assess the archaeological significance of the findings and make recommendations based on the best archaeological practice of interpretation and preservation of archaeological findings

The findings: - The findings of this report have been informed by desktop data review and impact assessment reporting which include recommendations to guide heritage authorities in making decisions with regards to the proposed project. This study was conducted before any activities took place on the proposed development area. The impact assessment study also includes detailed recommendations on how to mitigate and manage negative impacts while enhancing positive effects on the project area.

1.2 Legislative Frameworks used

- The Australia ICOMOS charter for places of cultural significance (the Burra Charter).
- The Principles for the analysis, conservation and structural restoration of architectural heritage (2003)
- The National Heritage and Resources Act of South Africa No.25 of 1999
- The Athens Charter, the Restoration of Historic Monuments (1931)
- The International Council on Monuments and Sites (1965)
- The World Heritage Convention(1972)
- The Washington Charter (1987)
- The International Charter for the Conservation and Restoration of Monuments and sites (the Venice charter 2006).

- The Organisation of World Heritage Cities (1993).

1.3 Scope of works

The Proposed project scope of the activities is given in the table below;

- **Desktop study**

Conduct a brief desktop study where information on the area is collected to provide a background setting of the archaeology that can be expected in the area.

- **Field study**

Conduct a field study to: a) systematically survey the proposed project area to locate, identify, record, photograph and describe sites of archaeological, historical or cultural interest; b) record GPS points identified as significant areas; c) determine the levels of significance of the various types of heritage resources recorded in the project area.

- **Reporting**

Report on the identification of anticipated and cumulative impacts that the operational units of the proposed project activity may have on the identified heritage resources for all 3 phases of the project; i.e., construction, operation and decommissioning phases. Consider alternatives, should any significant sites be impacted adversely by the proposed project. Ensure that all studies and results comply with Heritage legislation and the code of ethics and guidelines of ASAPA.

- **Reasoned Opinion**

To assist the developer in managing the discovered heritage resources in a responsible manner, and to protect, preserve, and develop them within the framework provided by the National Heritage Resources Act of 1999 (Act 25 of 1999).

2.0 DESCRIPTION OF THE RECEIVING ENVIRONMENT

2.1 Location

The project is located on Portion 133 of the farm Geduld located in Region D of the City of Ekurhuleni. The property size is 29.1882 hectares (ha). The project area is located along the N12 and N17 (east-west linkages), R29 and R51 (north-south linkages)



Figure 1: Regional Context of the proposed development site showing the major roads (Provided by the Client)



Figure 2: Google image showing the proposed development site (Provided by The client)

3.0 METHODOLOGY

3.1 Literature review

The methodology used in this HIA is based on a comprehensive understanding of the current or baseline situation; the type, distribution and significance of heritage resources as revealed through desk-based study and additional data acquisition, such as archaeological investigations, built heritage surveys, and recording of crafts, skills and intangible heritage. This is systematically integrated by the use of matrices with information on the nature and extent of the proposed engineering and other works to identify potential. The following tasks were also undertaken in relation to the cultural heritage and are described in this report:

The background information search of the proposed development area was conducted following the site maps from the client. Sources used in this study included:

- Published academic papers and HIA and PIA studies conducted in and around the region where the proposed infrastructure development will take place;
- Available archaeological literature on the Springs area was consulted;
- The SAHRIS website and the National Data Base were consulted to obtain background information on previous heritage surveys and assessments in the area; and other planning documents.
- Map Archives - Historical maps of the proposed area of development and its surrounds were assessed to aid information gathering of the proposed area of development and its surrounds

3.2 Field Survey / Ground Trothing

Tsimba Archaeological Footprints heritage specialists attended to the site on the 20th of November 2020 as agreed to by the client. A systematic survey of the buildings was conducted paying specific attention to their architecture and structural soundness. The survey was conducted on foot, a systemic survey of the area resulted in the maximum coverage of the structure. The descriptions of the shape of these objects/ sites were also sketched and described.

The survey followed investigated the cultural resources onsite using the best possible technologies for archaeological field surveys, a Samsung GPS Logger (2018) was used to pick co-ordinates and a Nikon W300 Camera(with built in GPS) was used to document the resources as well as the receiving environment.

3.3 Public Participation Process

The local community is critical in giving an oral account as well as detailed intangible values of a site. Article 12 of the Burra Charter states the conservation, interpretation and management of a heritage resource should provide for the participation of people for whom the place has significant associations and meanings, or who have social, spiritual or other cultural responsibilities for the place.

A comprehensive public participation process was carried out by Afzelia Environmental Consultants [Pty] Ltd in terms of the EIA Regulations (2014), and has ensured that the public participation principles are upheld. A successful Public Participation Programme (PPP) is one that is inclusive, actively engages the public and provides ample opportunity for the public to participate in the process.

The purpose of the PPP is to ensure that the issues, inputs and concerns of Interested and Affected Parties (I&APs) are taken into account during the decision-making process. This requires the identification of I&APs (including authorities, technical specialists and the public), communication of the process and findings to these I&APs and the facilitation of their input and comment on the process and environmental impacts, including issues and alternatives that are to be investigated.

3.4 Data Consolidation and Report Writing

Data captured on the development area (during the field survey) by means of a desktop study and physical survey is used as a basis for this HIA. This data is also used to establish assessment for any possible current and future impacts within the development footprint. This includes the following:

- ✚ Assessment of the significance of the cultural resources in terms of their archaeological, built environment and landscape, historical, scientific, social, religious, aesthetic and tourism value;
- ✚ A description of possible impacts of the proposed development, especially during the construction phase, in accordance with the standards and conventions for the management of cultural environments;
- ✚ Proposal of suitable mitigation measures to minimize possible negative impacts on the cultural environment and resources that may result during construction;
- ✚ Review of applicable legislative requirements that is the NEMA (read together with the 2014 EIA Regulations) and the NHRA of 1999
- ✚ The consolidation of the data collected using the various sources as described above;
- ✚ Acknowledgement of impacts on heritage resources (such as unearthed graves) predicted to occur during construction; and
- ✚ Geological Information Systems mapping of known archaeological sites and maps in the region
- ✚ A discussion of the results of this study with conclusions and recommendations based on the available data and study findings.

4.0 LEGISLATIVE FRAMEWORK

This HIA is informed and conducted to fulfil the requirements of the National Heritage Resources Act (No 25 of 1999) 38(1) (a) of the National Heritage Resources Act (NHRA- Act No. 25 of 1999) (1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised as—any development or other activity which will change the character of a site—(i) exceeding 5 000 m² in extent; and 4) No person may, without a permit issued by the responsible heritage resources authority— (a) destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite.

4.1 Scope of the Phase 1 HIA



A Phase 1 HIA is a pre-requisite for development in South Africa as prescribed by SAHRA and stipulated by legislation. The overall purpose of heritage specialist input is to:



- Identify any heritage resources, which may be affected;
- Assess the nature and degree of significance of such resources;
- Establish heritage informants/constraints to guide the development process through establishing thresholds of impact significance;
- Assess the negative and positive impact of the development on these resources; and
- Make recommendations for the appropriate heritage management of these impacts.

4.2 Cultural Heritage Resources Management Policy Objectives

- a. To preserve representative samples of the National archaeological resources for the scientific and educational benefit of present and future generations;
- b. To ensure that development proponents consider archaeological resource values and concerns in the course of project planning; and
- c. To ensure where decisions are made to develop land, the proponents adopt one of the following actions:
 - avoid archaeological sites wherever possible;
 - implement measures which will mitigate project impacts on archaeological sites; or
 - compensate the local communities for unavoidable losses of significant archaeological value.

5.0 ARCHEOLOGICAL BACKGROUND

ARCHAEOLOGICAL PERIOD	APPROXIMATE DATES <for less than and > for greater than
<p>Early Stone Age</p> <p>more than 2 million years ago to >200 000 years ago</p> 	<p>The Stone Age dates back more than 2 million years representing a more explicit beginning of the cultural sequence divided into three epochs, the Early, Middle and Late Stone Ages. These early people made stone and bone implements. In South Africa more than 3 million years ago appeared proto- human hominids. The hominid site nearest to the study area is Taung near Vryburg. Taung was proclaimed a UNESCO World Heritage Site proclaimed at the same time with the Sterkfontein Caves (Krugersdorop) and Makapans Valley (Mokopane) in a sequential nomination. The earliest tools clearly manufactured by our ancestors and their relatives (early hominids) date to 2,5 million years ago.</p>
<p>Middle Stone Age</p> <p><300 000 years ago to >20 000 years ago</p> 	<p>The Middle Stone Age is marked by the introduction of a new tool kit which included prepared cores, parallel-sided blades and triangular points hafted to make spears. By then humans had become skillful hunters, especially of large grazers such as wildebeest, hartebeest and eland. This enabled skilled hunter-gatherer bands to adapt to different environments. From this time onwards, rock shelters and caves were used for occupation and reoccupation over very long periods of time (Mitchell 2002). Two Middle Stone Age sites at the Withoek Spruit (Brakpan) were researched 17 years ago, but no information on this discovery has been published.</p>
<p>Late Stone Age</p> <p><40 000 years ago up to historical times in certain areas</p>	<p>In the LSA period humans are classified as Homo sapiens which refer to the modern physical form and thinking capabilities. Several behavioural traits are exhibited, such as rock art and purposeful burials with ornaments, became a regular practice. The Later Stone Age (LSA), which occurred from about 20 000 years ago, is signalled by a series of technological innovations and social transformations within these early hunter-gatherer societies. The Late Iron Age sites within Ekurhuleni's south-</p>

 <p>Pic Credit : Wits university Library</p>	<p>eastern border are a 'spill-over' from a larger concentration which are located further towards the west, in the Witwatersrand, while large concentrations of stone walled sites are also located directly to the south of Johannesburg, in the mountainous area around the Suikerbosrand in Heidelberg. The stone walled settlements are concentrated in clusters of sites and sometimes are dispersed over large areas making them vulnerable to developments of various kinds. A site consists of a circular or elliptical outer wall that is composed of a number of scalloped walls facing inwards towards one or more enclosures. Whilst the outer scalloped walls served as dwelling quarters for various family groups, cattle, sheep and goat were stocked in the centrally located enclosures. Huts with clay walls and floors were built inside the dwelling units. Pottery and metal items are common on the sites. However, iron and copper were not produced locally on these sites (Killick 2004).</p>
<p>Iron Age c. AD 200 - c. AD 1840</p>  <p>Pic Credit : Claire Anderson and Andy Halpin</p>	<p>The expansion of early farmers, who, among other things, cultivated crops, raised livestock, mined ore and smelted metals, occurred in this area between AD 400 and AD 1100. Dates from Early Iron Age sites indicated that by the beginning of the 5th century AD Bantu-speaking farmers had migrated down the eastern lowlands and settled in the Mpumalanga lowveld. Subsequently, farmers continued to move into and between the lowveld and highveld of Mpumalanga until the 12th century. These Early Iron Age sites tend to be found in similar locations. Sites were found within 100m of water, either on a riverbank or at the confluence of streams. The close proximity to streams meant that the sites were often located on alluvial fans (Whitelaw, 1996 pp 75-83).</p>

6.0 HISTORICAL BACKGROUND OF THE SPRINGS AREA

The establishment of the town of Springs is closely associated with the coal mining industry and the development of railway infrastructure in the ZAR. The accidental discovery of a coal seam during gold prospecting at Boksburg in 1887 was the impetus for the construction of the first railway line north of the Vaal River, the so-called Rand Tram. In 1952, these opportunities for affordable housing types were halted when the Springs Town Council shifted its policy to provide only economic houses. This change was precipitated by the state's decision to end the subsidised categories of new housing loans in 1949, with all such funds to be spent by

the end of 1951. This also coincided with the founding of the Nederlandsche Zuid-Afrikaansche Spoorweg-Maatschappij (NZASM) in June 1887 in the Netherlands. This company was established as a concession by the ZAR government to build and operate a railway line between Pretoria and the Mozambique border.

The farm Springs was surveyed by James Brooks in 1883. The neighbouring farms were Geduld, Rietfontein and Brakpan. Geduld, which now forms part of Springs, was bought by President Paul Kruger from the Pretoria businessman Albert Broderick in 1886. Kruger later sold it for "a large sum" to Messrs. Goertz & Co (Praagh 1906). From information obtained at the Chief Surveyor-General's office, it was determined that as early as 1912 a section of the farm Welgedacht, in possession of "The Welgedacht Exploration Co. Ltd" was transferred to the South African Railways, probably for the construction of a station.

Some of the known heritage buildings in Springs include the Vogelstruisbult. This is an abandoned gold mine on the East Rand near Springs. It was registered back in 1933 and began production in 1937. Anglo American was the controlling shareholder for many years. According to the book, "History of Springs" the mine produced just under 224 tons of gold during its 31 year lifetime. Another heritage building is the Nedbank building which contained the historic Nedbank documents that were being thrown away by the company. For a while the future of the documents looked bleak but thankfully the story had a happy ending when top Nedbank executives got involved. The documents were moved to the Sandton head office and the execs committed to hire an archivist to go through the collection. The execs also committed to let the community know what was found and what would then be done with the documents².

7.0 DISCUSSION OF THE FINDINGS

This field visit, completed by a qualified archaeologist assessed the entire area that could be impacted during construction. The assessment included visual inspection to identify features with predictable archaeological potential, surface inspection of areas with exposed sediments for cultural materials, subsurface testing of terrain features exhibiting archaeological potential, and ground conditions, the thawing, screening and analysis of

² The Heritage Portal (2020) Springs : Accessed on 1 December 2020
<http://www.theheritageportal.co.za/article-locations/springs>

frozen sediment samples. After the field study has been completed, a report including associated findings was prepared and submitted under the permit.

7.1 Pictorial presentation of the site



Figure 3: Cast ore dumping on site



Figure 4: Vegetation cover on site



Figure 5: An access road within the proposed development footprint



Figure 6: Part of the mine dumps on site



Figure 7: View of the northern end of the site close to the railway line



Figure 8: View of the scattered stones that was investigated for potential burials



Figure 9: Central view of the proposed development site.



Figure 10: View of a sports field at the eastern end of the site

7.2 Pictorial presentation of the findings



Figure 11: Front façade of the first old building currently being used as offices. Notice the steep roof near the gables on either side. The façade of the house is strongly reminiscent of Victorian period houses

Elements of Victorian architecture on this property are demonstrated through the steeply pitched angle on the roof that was popular among the Victorians. Victorian elements are also demonstrated through the two gables on either side of the main structure on either sides. Placed in time, Victorian style architecture emerged in 1837 and lasted up to 1901 when it gave way to the Edwardians. Its presence in Springs, let alone South Africa is a legacy of colonialism, particularly from the British who occupied this area.

Jacobs and Kearney (2018) observes that one of the most common aspects of British colony development in towns was the attitude towards convenience and comfort. In this case, the verandah house was a very popular device in the Victorian period. The Verandah's unified the horizontal elements of the streets, and was by far the most essential industrial products used in many parts of South Africa for its excellent properties for rain protection. Corrugated sheets might not have suited the colder European climate, but the building material was excellent for hot climates. It cooled off quickly in the evenings, and proved an excellent alternative to thatch. With the use of Verandah's as sun protection, the use for shutters became void, hence the removal of them as functional and aesthetical element. With the act of rebuilding London in 1667, it became legislation that buildings required balconies on the first floor to prevent falling timber falling directly to the streets. It is believed that this was a driving factor for the origins and characteristics of the balconies found in the Gregorian and Victorian style.

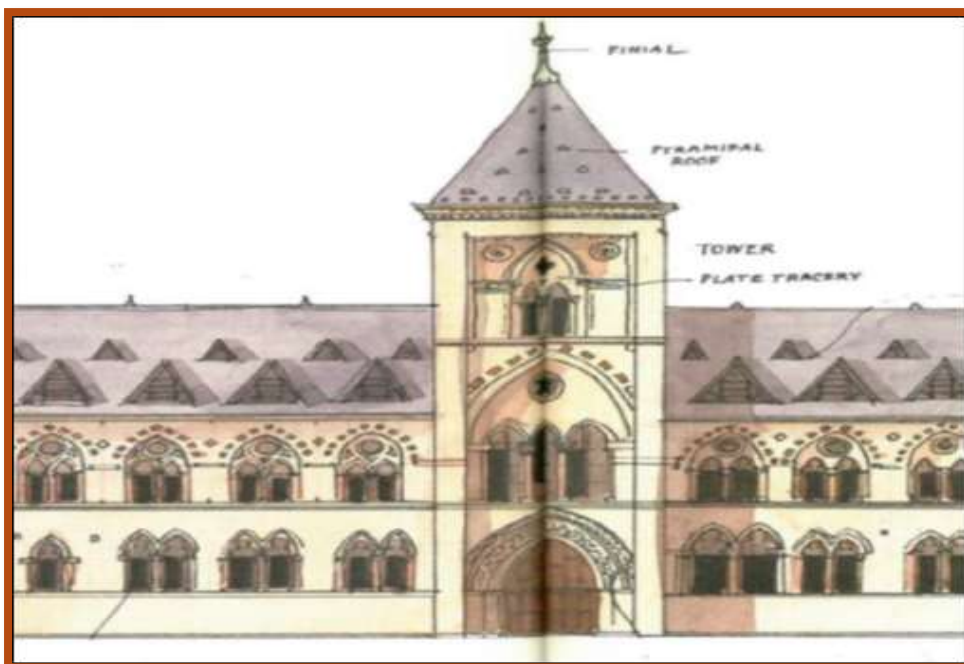


Figure 12: Illustrations taken from Rice, Matthew. 2009. Rice's Architectural Primer. Bloomsbury Publishing Ltd: London.

Congruencies can be observed on the two images above. An illustration from Matthew Rice (2009) above clearly demonstrates that Victorian architecture emphasizes on steep roofs. That design can also be observed on the property in question.



Plate 2: Oxenham's Bakery, 1983.

Figure 13: This is Oxenham's Bakery located in Pietermaritzburg, a Victorian building. It is designated as one of the oldest buildings in the City. Notice the similarities with the first building onsite above; steep roof, rooms extending outwards from the main structure and a chimney at the back (Pic credit: Jacobs and Kearney 2018) .



Figure 14: View of the second old building with Victorian architectural designs.

❖ Assessment of Values

Significance	Importance			
	Local	Regional	National	International
Architectural	High	Medium	Medium	Medium
Historical	High	Medium	Low	Low
Technical	Medium	Medium	Low	Low
Scientific	Medium	Medium	Low	Low
Social	Medium	Medium	Low	Low

❖ Assessment of Significance

Cultural Significance: Medium

Heritage Significance: Grade III

Field Rating: Generally Protected B (GP.B)

Mitigation: See above

Probability of Impact: Probable

Duration of Impact: Long term

Scale of Impact: Site and region

Significance of Impact: High

Magnitude of Impact: High

8.0 HERITAGE ASSESSMENT OF SIGNIFICANCE

The significance of a site can be modified or added to. Its importance can be increased by communicating the significance to more people through the media or archaeological reports. Site significance classification standards prescribed by SAHRA (2006), and acknowledged by ASAPA for the SADC region, were used for the purposes of this report.

- ❖ The main aim in assessing significance is to produce a succinct statement of significance, which summarises an item's heritage values. The statement is the basis for policies and management structures that will affect the item's future.

SAHRA's Site significance classification minimum standards			
Filed Rating	Grade	Classification	Recommendation
National Significance (NS)	Grade 1		Conservation; National Site nomination
Provincial Significance (PS)	Grade 2		Conservation; Provincial Site nomination
Local Significance (LS)	Grade 3A	High Significance	Conservation; Mitigation not advised
Local Significance (LS)	Grade 3B	High Significance	Mitigation (Part of site should be retained)
Generally Protected A (GP.A)		High/ Medium Significance	Mitigation before destruction
Generally Protected B (GP.B)		Medium Significance	Recording before destruction
Generally Protected C (GP.A)		Low Significance	Destruction

Site significance is calculated by combining the following concepts in the given formula.

$$S = (E + D + M) P$$

S = Significance weighting

E = Extent

D = Duration

M = Magnitude


P = Probability

The significance weightings for each potential impact are as follows:

The significance weightings for each potential impact are as follows:		
Aspect	Description	Weight
Probability	Improbable	1
	Probable	2
	Highly Probable	4
	Definite	5
Duration	Short term	1
	Medium term	3
	Long term	4
	Permanent	5
Scale	Local	1
	Site	2
	Regional	3
Magnitude/Severity	Low	2
	Medium	6
	High	8

Impact Significance		
It provides an indication of the importance of the impact in terms of both tangible and intangible characteristics. (S) is formulated by adding the sum of numbers assigned to Extent (E), Duration (D), and Intensity (I) and multiplying the sum by the Probability. $S = (E+D+M) P$		
<30	Low	Mitigation of impacts is easily achieved where this impact would not have a direct influence on the decision to develop in the area.
30-60	Medium	Mitigation of impact is both feasible and fairly easy. The impact could influence the decision to develop in the area unless it is effectively mitigated.
>60	High	Significant impacts where there is difficult. The impact must have an influence on the decision process to develop in the area.
Nature: During the construction phase activities resulting in disturbance of surfaces and/or sub-surfaces may destroy, damage, alter, or remove from its original position archaeological material or objects.		
	Without Mitigation	With Mitigation
Extent	Local (1)	Local (1)
Duration	Permanent (5)	Permanent (5)
Magnitude	Low (2)	Low(2)
Probability	Not Probable (2)	Not probable (2)
Significance	Low (16)	Low(16)
Status	Negative	Negative
Reversibility	Not irreversible	Not irreversible
Irreversible loss of resources	No resources were recorded	No resources were recorded
Can impacts be mitigated?	Yes, a chance find procedure should be implemented.	Yes
Mitigation: Impacts are rated as 30 (Low) Mitigation of impact is both feasible and fairly easy. The impact could influence the decision to develop in the area unless it is effectively mitigated		

8.1 Conclusions

 *This report is an independent view and makes recommendations to The Provincial Heritage Authority based on its findings. The authority will consider the recommendations and make a decision based on conservation principles.*

It is the reasoned opinion of the author of this report that the provincial heritage authority should exercise its discretion and offer the proposed development a conditional positive review. This is based on the fact that no other heritage resources were noted in the proposed development footprint apart for the old buildings noted above which will not be affected in any way by the proposed development. Proposed below are the recommendations that the developer would have to stick to when developing.

8.2 Recommendations

1. Stone Age material occurs in the study area and no ceramics or stone walls attributed to the Iron Age were recorded within the study area. No further mitigation is recommended in terms of the archaeological component for Section 35 for the proposed development to proceed.
2. In terms of the built environment of the area (Section 34), standing structures older than 60 years occur within the study area. These buildings will however not be affected by the development however should the client wish to demolish these buildings, a Phase 2 Heritage Impact Assessment for Built environment should be carried out and a demolition permit should be sort from the Provincial Heritage Authority.
3. In terms of Section 36 of the National Heritage Resources Act no burial sites were recorded. However if any graves are located in future they should ideally be preserved in-situ or alternatively relocated according to existing legislation. Due to the subsurface nature of archaeological remains and the fact that graves can occur anywhere on the landscape, it is recommended that a chance find procedure is implemented for the project as part of the EMPr as detailed below (see Appendix E).

9.0 REFERENCES

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APPENDIX A: DEFINITION OF TERMS ADOPTED IN THIS HIA

- The terminology adopted in this document is mainly influenced by the NHRA of South Africa (1999) and the Burra Charter (1979).

Adaptation: Changes made to a place so that it can have different but reconcilable uses.

Artefact: Cultural object (made by humans).

Buffer Zone: Means an area surrounding a cultural heritage which has restrictions placed on its use or where collaborative projects and programs are undertaken to afford additional protection to the site.

Co-management: Managing in such a way as to take into account the needs and desires of stakeholders, neighbours and partners, and incorporating these into decision making through, amongst others, the promulgation of a local board.

Conservation: In relation to heritage resources, includes protection, maintenance, preservation and sustainable use of places or objects so as to safeguard their cultural significance as defined. These processes include, but are not necessarily restricted to preservation, restoration, reconstruction and adaptation.

Contextual Paradigm: A scientific approach which places importance on the total context as catalyst for cultural change and which specifically studies the symbolic role of the individual and immediate historical context.

Cultural Resource: Any place or object of cultural significance

Cultural Significance: Means aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance of a place or object for past, present and future generations.

Feature: A coincidental find of movable cultural objects.

Grading: The South African heritage resource management system is based on a grading system, which provides for assigning the appropriate level of management responsibility to a heritage resource.

Heritage Resources Management: The utilization of management techniques to protect and develop cultural resources so that these become long term cultural heritage which are of value to the general public.

Heritage Resources Management Paradigm: A scientific approach based on the Contextual paradigm, but placing the emphasis on the cultural importance of archaeological (and historical) sites for the community.

Heritage Site Management: The control of the elements that make up the physical and social environment of a site, its physical condition, land use, human visitors, interpretation etc. Management may be aimed at preservation or, if necessary at minimizing damage or destruction or at presentation of the site to the public.

Historic: Means significant in history, belonging to the past; of what is important or famous in the past.

Historical: Means belonging to the past, or relating to the study of history.

Maintenance: Means the continuous protective care of the fabric, contents and setting of a place. It does not involve physical alteration.

Object: Artefact (cultural object)

Paradigm: Theories, laws, models, analogies, metaphors and the epistemological and methodological values used by researchers to solve a scientific problem.

Preservation: Refers to protecting and maintaining the fabric of a place in its existing state and retarding deterioration or change, and may include stabilization where necessary. Preservation is appropriate where the existing state of the fabric itself constitutes evidence of specific cultural significance, or where insufficient evidence is available to allow other conservation processes to be carried out.

Protection: With reference to cultural heritage resources this includes the conservation, maintenance, preservation and sustainable utilization of places or objects in order to maintain the cultural significance thereof.

Place : Means a geographically defined area. It may include elements, objects, spaces and views. Place may have tangible and intangible dimensions.

Reconstruction: To bring a place or object as close as possible to a specific known state by using old and new materials.

Rehabilitation: The repairing and/ or changing of a structure without necessarily taking the historical correctness thereof into account.

Restoration: To bring a place or object back as close as possible to a known state, without using any new materials.

Site: A large place with extensive structures and related cultural objects. It can also be a large assemblage of cultural artefacts, found on a single location.

Sustainable: Means the use of such resource in a way and at a rate that would not lead to its long-term decline, would not decrease its historical integrity or cultural significance and would ensure its continued use to meet the needs and aspirations of present and future generations of people.

APPENDIX B: ENVIRONMENTAL CONTEXT FOR HERITAGE SPECIALIST STUDIES IN SOUTHERN AFRICA

This is categorized by a temporal layering including a substantial pre-colonial, early contact and early colonial history as distinct from other regions. The following table can be regarded as a useful categorization of these formative layers:

Indigenous:

Palaeontological and geological:

- Precambrian (1.2 bya to late Pleistocene 20 000 ya) Archaeological:
- Earlier Stone Age (3 mya to 300 00ya) (ESA)
- Middle Stone Age (c300 000 to 30 000 ya) (MSA)
- Later Stone Age (c 30 000 to 2000 ya) (LSA)
- Late Stone Age Herder period (after 2000 ya) (LSA - Herder period)
- Early contact (c 1500 - 1652)

Colonial:

- Dutch East India Company (1652 - 1795)
- Transition British and Dutch occupation (1796-1814)
- British colony (1814 -1910)
- Union of South Africa (1911-1961)
- Republic of South Africa (1962 – 1996)

APPENDIX C: DEFINITION OF VALUES

Value	Definition
Historic Value	Important in the community or pattern of history or has an association with the life or work of a person, group or organization of importance in history.
Scientific Value	Potential to yield information that will contribute to an understanding of natural or cultural history or is important in demonstrating a high degree of creative or technical achievement of a particular period
Aesthetic Value	Important in exhibiting particular aesthetic characteristics valued by a community or cultural group.
Social Value	Have a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons
Rarity	Does it possess uncommon, rare or endangered aspects of natural or cultural heritage
Representivity	Important in demonstrating the principal characteristics of a particular class of natural or cultural places or object or a range of landscapes or environments characteristic of its class or of human activities (including way of life, philosophy, custom, process, land-use function, design or technique) in the environment of the nation, province region or locality.

APPENDIX D: RESOURCE LIKELY TO OCCUR WITHIN THESE CONTEXTS AND LIKELY SOURCES OF HERITAGE IMPACTS/ISSUES

HERITAGE CONTEXT	HERITAGE RESOURCES	SOURCES OF HERITAGE IMPACTS/ISSUES
A. PALAEOLOGICAL LANDSCAPE CONTEXT	Fossil remains. Such resources are typically found in specific geographical areas, e.g. the Karoo and are embedded in ancient rock and limestone/calcrete formations.	Road cuttings Quarry excavation
B. ARCHAEOLOGICAL LANDSCAPE CONTEXT NOTE: Archaeology is the study of human material and remains (by definition) and is not restricted in any formal way as being below the ground surface.	Archaeological remains dating to the following periods: <ul style="list-style-type: none"> ▪ ESA ▪ MSA ▪ LSA ▪ LSA - Herder ▪ Historical ▪ Maritime history 	<ul style="list-style-type: none"> ▪ Subsurface excavations including ground leveling, landscaping, foundation preparation. ▪ In the case of maritime resources, development including land reclamation, harbor/marina/water front developments, marine mining, engineering and salvaging.
	Types of sites that could occur include: <ul style="list-style-type: none"> ▪ Shell middens 	
	<ul style="list-style-type: none"> ▪ Historical dumps 	
	<ul style="list-style-type: none"> ▪ Structural remains 	
C. HISTORICAL BUILT URBAN LANDSCAPE CONTEXT	<ul style="list-style-type: none"> • Historical townscapes/streetscapes. • Historical structures; i.e. older than 60 years • Formal public spaces. • Formally declared urban conservation areas. • Places associated with social identity/displacement. 	<p>A range of physical and land use changes within this context could result in the following heritage impacts/issues:</p> <ul style="list-style-type: none"> • Loss of historical fabric or layering related to demolition or alteration work. • Loss of urban morphology related to changes in patterns of subdivision and incompatibility of the scale, massing and form of new development. • Loss of social fabric related to processes of gentrification and urban renewal.